

## CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

## DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

## GENERAL SUMMARY.

September, 1911, was cool. The mean temperature for the State as a whole was the lowest since records have been kept. In fact it was nearly  $2^{\circ}$  cooler than September, 1900, a phenomenally cool month. It was  $3^{\circ}$  cooler than September last year. It was also a dry month, although not so dry as some Septembers have been. The total precipitation was less than half that of last September.

The cause of the cool weather is not clearly understood; but it may be noted that both the spring and summer have been marked by continued cool weather. There has been considerable cloudiness and more than the usual amount of fog along the coast; but in the interior the weather has been clear and pleasant and without the usual hot periods. The one noticeable feature of pressure distribution has been the succession of low areas over the Great Basin and the comparative absence of high areas over the northern half of the Pacific Slope.

There were no special features of importance in the general character of the weather. There was a succession of fair days with moderate temperatures until September 11, when there was a marked increase in cloudiness and light showers occurred in the northern counties. The unsettled weather lasted for about 48 hours. On September 21 a storm of the Sonora type appeared over Arizona. The area of cloudiness extended westward and light showers occurred in the raisin belt of the San Joaquin Valley. On September 24 cloudiness was general throughout the State, and on the 25th moderate thunderstorms were recorded in the Sacramento Valley and in the Sierra.

The most important feature of the month's weather was the Sonora storm of September 28, 29, and 30. On the night of the 28th the temperature fell  $16^{\circ}$  in the San Joaquin Valley and rose  $8^{\circ}$  in the Sacramento Valley. A disturbance over the Valley of the Colorado moved northwestward, and by the morning of the 29th over 1 inch of rain had fallen at various points in the San Gabriel Valley. The rain at Los Angeles amounted to 1.23 inches, the greatest fall for any September of record for that station, the largest quantity hitherto recorded being 1.22 inches September, 1908. At Pasadena the rainfall amounted to 1.82 inches.

The bean crop of Ventura, Orange, and adjoining counties was damaged to some extent. The value of this crop is estimated at \$5,000,000. The first rain of the season in the raisin belt of the San Joaquin Valley fell on the morning of the 29th. Most of the raisin crop was stacked, however, and comparatively little damage was done. Ample warnings were given by the Weather Bureau.

## TEMPERATURE.

The mean temperature for the State was  $63.9^{\circ}$ , or  $2.8^{\circ}$  below the normal, making the month as above stated the coldest month on record, i. e., the coldest since 1897. Only twice in this period of 15 years has the September mean temperature been below  $66^{\circ}$ .

The following table gives the means and departures for each September from 1897 to 1911, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	$^{\circ}F.$	$^{\circ}F.$		$^{\circ}F.$	$^{\circ}F.$
1897.....	67.7	+1.0	1905.....	68.6	+1.9
1898.....	69.2	+2.5	1906.....	68.6	+1.9
1899.....	70.9	+4.2	1907.....	65.6	-1.1
1900.....	65.4	-1.3	1908.....	68.1	+1.4
1901.....	68.0	-0.7	1909.....	68.2	+1.5
1902.....	70.7	+4.0	1910.....	67.3	+0.6
1903.....	68.7	+2.0	1911.....	63.9	-2.8
1904.....	70.3	+3.6			

The highest temperature reported at any station was  $112^{\circ}$  at Blythe on the 2d. This was  $7^{\circ}$  lower than the highest temperature recorded during September, 1910. The lowest temperature during the month was  $17^{\circ}$  at Alturas on the 18th. This was  $2^{\circ}$  lower than the lowest recorded during the preceding September. The highest monthly mean was  $87.9^{\circ}$  at Bagdad, whereas the highest monthly mean for the same month during the preceding year was  $93^{\circ}$  at Mammoth Tank. The lowest monthly mean was  $45.6^{\circ}$  at Tamarack.

## PRECIPITATION.

September, 1911, was a dry month. While by no means the driest September on record, it was much drier than any September for several seasons back. The rainfall was in the nature of afternoon and night showers along the northern coast and heavy night showers at the close of the month in southern California. Except for the last three days, the month would have been very dry. Even with the heavy showers of the 28th, the average monthly precipitation was only 0.31 of an inch, or 0.19 of an inch below the normal. The month differed considerably from September, 1910, although in that month also there were heavy showers in the southern counties, especially Ventura and Santa Barbara. Last year, however, phenomenally heavy rains fell in the San Joaquin counties. The rainfall at Fresno, for example, being the heaviest in 23 years.

The following table gives the average and departure from the normal for each September from 1897 to 1911, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897.....	0.03	-0.47	1905.....	0.16	-0.34
1898.....	.64	+.14	1906.....	.25	-.25
1899.....	.03	-.47	1907.....	.13	-.37
1900.....	.22	-.28	1908.....	.49	-.01
1901.....	.94	+.44	1909.....	.52	+.02
1902.....	.01	-.49	1910.....	.69	+.19
1903.....	.10	-.40	1911.....	.31	-.19
1904.....	2.66	+2.16			

The greatest monthly rainfall was 3.66 inches at Rialto. Last year the greatest monthly amount was 4.15 inches, at Ozona. There was no rainfall at many stations.

Nearly 25 per cent of the stations reporting were without rain. The heaviest 24-hour rainfall was 2.59 inches, at Squirrel Inn.

#### SNOWFALL.

The month was practically without snow. It is not unusual to have some snow flurries and light falls during September; but the present month was without snow, except at the higher elevations.

#### SUNSHINE.

The following table gives the total hours of sunshine and percentages of possible:

Stations.	Hours.	Percent- age of possible.	Stations.	Hours.	Percent- age of possible.
Eureka.....	180	48	Sacramento.....	321	86
Fresno.....	305	82	San Diego.....	282	76
Los Angeles.....	292	79	San Francisco.....	222	59
Mount Tamalpais.....	297	80	San Jose.....	312	84
Red Bluff.....	321	86	San Luis Obispo.....	270	73

#### NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS FOR SEPTEMBER, 1911.

By N. R. TAYLOR, Local Forecaster.

#### SACRAMENTO WATERSHED.

There was little departure from the low stages that usually occur in this watershed during the month, although the run-off of all streams was somewhat above that of the corresponding month of 1910. At Sacramento the lowest stages of the month, 5.5 feet, occurred from the 13th to 17th, inclusive; after the last-named date the effect of the tides was noted in the river for some distance above the mouth of the American.

The rainfall was deficient generally, light showers having occurred only in the upper Sacramento Valley and in the Feather-Yuba territory, and in no case was the rainfall sufficient to appreciably affect the run-off.

Sand bars formed in the river in the vicinity of Sacramento at various times during the month, causing the grounding of some of the smaller craft, but there were few prolonged interruptions to navigation.

#### SAN JOAQUIN WATERSHED.

Light showers occurred during the month at most of the river stations in this watershed, but only in the upper reaches of the Tuolumne, Stanislaus, Mokelumne, and Cosumnes Rivers was there a measurable amount of rainfall. All watercourses in the San Joaquin Valley carried considerably more water than for any September during the past three or four years. This was notably so in the San Joaquin above the mouth of the Merced, and in the Stanislaus and Merced Rivers, which showed the greatest September discharges of which there is record.

#### WEATHER IN THE SAN JOAQUIN VALLEY.

By W. E. BONNETT, Local Forecaster.

September was a cool month, with the mean  $4.5^{\circ}$  below the normal. A maximum of  $99^{\circ}$  was recorded on the 1st, and the temperature rose above  $90^{\circ}$  on eight days. On a number of dates it was not above  $80^{\circ}$ . This is an unusual condition for September, and unfavorable for fruit drying.

Traces of rain fell on the 21st and 28th, and 0.01 inch was recorded on the 29th. The normal monthly rainfall is 0.27 inch.

The month as a whole was unfavorable for raisin curing, the chief agricultural interest at this season. A

setback given to the grapes in the spring by frost and unusually cool weather in August and September delayed the ripening season two weeks. There has been none of the warm weather that normally occurs in September and which is counted upon for proper raisin curing. Picking in average seasons is completed during the first 10 days of the month, but this year a great many first-crop grapes were not picked on the 20th. From the 20th to the close of the month drying conditions were most unfavorable. Cloudy, threatening days alternated with clear days, but conditions did not warrant complete unstacking at any time after the 20th and what drying weather occurred during that time was lost.

#### VARIATION OF RAINFALL WITH ALTITUDE.

By A. G. MCADIE.

Through the courtesy of Mr. J. Crawford, superintendent of San Joaquin Light and Power Corporation, records of rainfall at four stations near Fresno, for the seasonal years 1909-10 and 1910-11, have been sent to the editor for discussion.

The stations are:

	Feet.
1. Fresno, elevation.....	230
2. San Joaquin power house, elevation.....	1,013
3. Reservoir No. 1, elevation.....	2,441
4. C. V. Dam, elevation.....	3,500

The monthly amounts recorded are:

Months.	Season 1909-10.				Season 1910-11.			
	1	2	3	4	1	2	3	4
September.....					0.09	1.00	1.56	1.50
October.....	0.72	1.52	1.72	2.28	.45	1.65	1.77	1.92
November.....	2.79	6.73	6.89	7.52	.24	1.05	1.21	1.22
December.....	4.50	9.03	10.24	17.10	.21	1.63	1.50	1.83
January.....	1.22	4.25	3.64	6.24	4.23	16.23	15.51	27.70
February.....	.21	.35	.48	1.35	1.14	3.57	3.24	4.65
March.....	1.28	2.03	2.09	2.84	3.30	9.32	8.97	14.26
April.....	.27	1.07	1.18	1.77	1.03	2.56	2.70	5.68
May.....					.10	.22	.51	.62
June.....								.12
July.....								
August.....								
Total.....	10.99	24.98	26.24	39.29	11.82	38.08	37.02	61.04

Combining the records and taking a mean we have an annual precipitation as follows:

230 feet, 11.40 inches.  
1,013 feet, 31.53 inches.  
2,441 feet, 31.63 inches.  
3,500 feet, 50.16 inches.

or a gradient of 1.18 inches per 100 feet. It will be noted that for some reason not now apparent there is a very small increase between 1,013 feet and 2,441 feet, or, in other words, in this locality the increase is at the rate of 2.58 inches per 100 feet up to 1,000 feet.

In the July number of the Monthly Weather Review Mr. Charles Lee gives numerous diagrams showing the rate of increase of precipitation with elevation in various parts of California. Three sections of the Sierra are charted, the first known as the Central Pacific group, extending from Sacramento to Truckee; second, the Mokelumne section, extending from Stockton to Carson Lake, about 50 miles south of the first group, and third, the Tuolumne group, extending from Merced to the southern end of Walker Lake. The Fresno section then would constitute a fourth group, one still farther south. From all of them it appears that there is a definite increase in precipitation with elevation up to 5,000 feet, decreasing steadily above this. The average rate of increase is 8.5 inches per 1,000 feet up to 5,000 feet.

TABLE 1.—Climatological data for September, 1911. District No. 11, California.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<b>Oregon.</b>																				
Klamath Agency.	Klamath.	4,169	3	48.2		88	1	22	9†	60	0.70		0.70	0	1	18	4	8	nw.	Edson C. Watson.
Klamath Falls.	do.	4,100	22																w.	W. H. Heileman.
Lakeview.	Lake.	4,825	28																	Bert Rice.
Merrill.	Klamath.	4,070	5	50.4		81	1†	23	18	49	0.51		0.27	0	2	18	5	7	w.	Mrs. Agnes Ritchison.
Yonpa.	do.	4,146	4	48.4		82	2	16	18	57	1.49		0.50	0	6	11	14	5	w.	Jacob Ruecke.
<b>California.</b>																				
Alameda.	Alameda.	1	64.4			85	17	52	6†	27	0.00		0.00	0	0				sw.	Chas. E. Sears.
Alturas.	Modoc.	4,460	7	51.8		87	1	17	18	60	0.58		0.49	0	5	20	8	2	sw.	Prof. C. B. Towle.
Angiola.	Tulare.	208	11	70.2	- 1.0	101	1†	40	26	53	0.00	- 0.09	0.00	0	0	24	0	6	w.	Santa Fe Co.
Antioch **.	Contra Costa.	46	32	78.0	+ 6.9	92	6	62	23	..	0.00	- 0.23	0.00	0	0	27	0	3	e.	Southern Pacific Co.
Aptos **.	Santa Cruz.	102	26	60.7	- 0.2	75	28	48	27	..	0.00	- 0.45	0.00	0	0	25	0	5	nw.	Do.
Arrowhead Springs.	San Bernardino.	2,000	2																sw.	Dr. E. Soegard.
Auburn.	Placer.	1,360	40	65.8	- 5.2	93	3†	40	6	47	0.05	- 0.43	0.05	0	1	24	0	6	ne.	Southern Pacific Co.
Avalon.	Los Angeles.	1	64.9			74	5†	55	26	16	0.58		0.50	0	3	27	1	2	w.	T. S. Manning.
Azusa.	do.	540	9																s.	A. P. Griffith.
Bagdad.	San Bernardino.	784	8	87.9		110	1	71	11	28	0.00		0.00	0	0				sw.	Santa Fe Co.
Bakersfield.	Kern.	404	22	71.6	- 4.2	97	1†	51	27	38	0.28	+ 0.15	0.15						e.	Do.
Barstow.	San Bernardino.	2,105	8																nw.	E. L. White.
Berkeley.	Alameda.	317	24	59.4	- 1.9	78	18	48	20	24	T.	- 0.52	T.	0	0	17	6	7	sw.	State University.
Biggs **.	Butte.	98	12	67.8	- 2.3	89	19	48	28	..	0.00	- 0.46	0.00	0	0	24	0	6	s.	Southern Pacific Co.
Bishop.	Inyo.	4,450	16																w.	W. A. Chalfant.
Bishop Creek.	do.	8,500	1	50.6		72	1	31	10†	34	0.00		0.00	0	0				sw.	Paul E. Lodge.
Blocksburg.	Humboldt.	1,700	5	55.3		84	1†	37	14	45	0.31		0.31	0	1	17	10	3	nw.	Victor Hope.
Blue Canon.	Placer.	4,693	12	57.6	- 0.8	85	15	32	13	41	0.05	- 1.11	0.05	0	1	22	7	1	sw.	Southern Pacific Co.
Blythe.	Riverside.	2,282	8	81.7		112	2	54	24	49	T.		T.	0	0	22	4	4	e.	D. H. Carey.
Branscomb.	Mendocino.	2,000	11	55.8		85	19	34	5	43	0.34	- 0.98	0.32	0	2	19	7	4	n.	A. J. Haun.
Brawley.	Imperial.	-105	2	83.7		110	3	60†	18	41	0.00		0.00	0	0				s.	M. D. Witter.
Brush Creek.	Butte.	2,140	7	60.5		96	3	30	9	54	0.88		0.57	0	2	26	0	4	s.	Cal. Gas & Elec. Co.
Burney.	Shasta.	3,300	1	52.7		84	1†	24	18	55	0.19		0.19	0	1	17	11	2	sw.	Mrs. M. D. Chambers.
Calexico.	Imperial.	0	6	84.9		108	2	58	6	41	0.00		0.00	0	0	24	0	6	se.	J. E. Peck.
Caliente **.	Kern.	1,290	35	68.4	- 6.6	93	2	56	8†	..	0.99	+ 0.91	0.89	0	2	17	0	13	n.	Southern Pacific Co.
Calistoga **.	Napa.	363	39	56.5	- 10.2	85	4†	33	30	28	0.00	- 0.36	0.00	0	0	28	0	2	sw.	Do.
Campbell.	Santa Clara.	217	14	59.2	- 3.2	85	7†	36	19	47	T.	- 0.43	T.	0	0	21	6	3	nw.	F. M. Righter.
Camptonville (near).	Yuba.	3,500	4	65.2		100	20	38	27	44	0.51		0.32	0	2	19	9	2	sw.	Cal. Gas & Elec. Co.
Cedaryville.	Modoc.	4,675	17	55.0	- 3.6	85	1	29	27	43	0.45	+ 0.03	0.28	0	3	18	12	0	sw.	T. H. Johnstone.
Chico.	Butte.	189	41	66.6	- 8.0	93	1	42	13†	46	0.12	- 0.35	0.12	0	1	28	1	1	s.	G. H. Stephenson.
China Flat.	Humboldt.	600	2	63.2		96	1	37	18	48	0.58		0.33	0	1	17	11	2	s.	O. J. Websterburg.
Chino **.	San Bernardino.	714	19	71.1	- 0.1	91	1	50	27	..	1.11	+ 1.07	0.62	0	2	24	0	6	e.	Southern Pacific Co.
Cisco **.	Placer.	5,939	40	56.5	+ 0.8	79	1†	36	28	..	0.00	- 0.38	0.00	0	0	22	1	7	n.	Do.
Claremont.	Los Angeles.	1,200	19	70.0	+ 0.8	98	1	46	26†	42	1.05	+ 0.94	0.55	0	2	19	8	3	w.	F. P. Brackett.
Cloverdale.	Sonoma.	340	8	63.0		92	21	57	15	50	0.04	- 0.83	0.04	0	1	24	1	5	nw.	John O. Ogle.
Colfax.	Placer.	2,421	40	61.0	- 8.5	87	2	42	10†	36	0.00	- 0.53	0.00	0	0	25	0	5	sw.	Southern Pacific Co.
Colusa.	Colusa.	420	8	64.8		86	7	44	28	37	0.01	- 0.58	0.01	0	1	27	2	1	s.	C. D. McCormish.
Corning **.	Tehama.	277	25	71.9	- 2.0	96	2	51	26†	..	0.30	+ 0.09	0.30	0	1	17	11	2	s.	Southern Pacific Co.
Cuyamaca.	San Diego.	4,677	12	64.3	+ 5.3	89	1	42	6	32	0.29	- 0.17	0.18	0	1	18	6	6	e.	Mrs. C. Macquarie.
Daunt.	Tulare.	4,000	4	57.0		95	1	30	26†	45	0.06		0.06	0	1	26	0	4	n.	D. L. Wisbon.
Davisville.	Yolo.	51	39	63.4	- 8.6	93	19	38	13†	55	0.00	- 0.21	0.00	0	0	24	5	1	sw.	S. H. Beckett.
Deer Creek.	Nevada.	3,700	4	54.0		85	1†	30	27	45	0.21		0.17	0	2	27	2	1	w.	Cal. Gas & Elec. Co.
Del Monte.	Monterey.	643	13	64.3		74	17†	49	27	60	0.00		0.00	0	0	24	6	6	n.	H. R. Warner.
Delta.	Shasta.	1,138	26	65.2	- 4.1	90	3†	42	22	44	0.62	- 0.38	0.25	0	3	27	0	3	s.	Southern Pacific Co.
Denair.	Stanislaus.	126	11	65.2	- 5.8	91	20	42	42	..	0.00	- 0.16	0.00	0	0	30	0	0	sw.	Santa Fe Co.
Dobbins.	Yuba.	1,650	7	67.5		92	1	46	27	36	0.24		0.15	0	2	21	8	1	s.	Cal. Gas & Elec. Co.
Dudleys.	Mariposa.	3,000	2	56.4		86	1	29	26†	49	0.03		0.03	0	1	23	1	6	nw.	W. H. Dudley.
Dunnigan **.	Yolo.	63	34	74.3	- 0.3	90	1	55	25†	T.	- 0.36	T.	0	0	28	1	1	n.	Southern Pacific Co.	
Dunsmuir **.	Siskiyou.	2,285	22																sw.	Do.
Durham.	Butte.	160	16	67.2	- 0.9	93	20	43	28	44	0.31	- 0.20	0.21	0	2	24	5	1	s.	R. W. Durham.
El Cajon.	San Diego.	482	12	69.0	0.0	94	16	43	7†	44	0.46	+ 0.34	0.26	0	3	28	0	2	sw.	H. H. Kessler.
Electra.	Amador.	725	7	67.7		96	1	42	27	46	0.05		0.05	0	1	24	0	6	w.	Cal. Gas & Elec. Co.
Elshire.	Riverside.	1,234	16	70.0	- 4.2	105	1	40	9	54	0.58	+ 0.60	0.35	0	2	18	9	3	e.	A. F. Schult.
Emigrant Gap.	Placer.	5,230	37	57.0	- 2.0	82	1	34	30	44	0.40	+ 0.08	0.40	0	1	20	4	6	n.	Southern Pacific Co.
Escondido.	San Diego.	657	17	68.2	- 0.8	95	1	41	18	48	0.02	0.00	0.02	0	1	26	1	1	w.	A. R. Moon.
Eureka.	Humboldt.	64	25	55.0	+ 0.1	66	15	44	23	16	0.29	- 1.09	0.09	0	9	6	15	9	n.	U. S. Weather Bureau.
Farmington **.	San Joaquin.	111	32	71.0	- 1.0	90	2†	50	23	..	0.05	- 0.16	0.05	0	1	24	4	2	sw.	F. O. Hutton.
Folsom.	Sacramento.	252	39																w.	A. J. Burgi.
Fordyce Dam.	Nevada.	6,500	16	47.2		70	1†	28	19†	37	0.55	- 1.18	0.55	0	1	12	16	2	sw.	U. S. Weather Bureau.
Fouts Springs.	Colusa.	1,650	7	60.9		96	1	33	26	51	T.	0	0	0	1	24	4	2	w.	A. F. Roening.
Fresno.	Fresno.	293	24	69.8	- 4.5	99	1	48	26	39	0.01	- 0.18	0.01	0	1	23	3	4	s.	U. S. Weather Bureau.
Fruto **.	Glenn.	624	22	67.3	- 5.0	90	1†	47	26	..	0.30	- 0.10	0.30	0	1	28	0	2	sw.	

TABLE 1.—Climatological data for September, 1911. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Observers.		
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	
<i>California—Continued.</i>																	
King City.	Monterey.	333	24	63.0	-3.0	96	3	32	30	58	0.00	-0.21	0.00	0	24	0	Southern Pacific Co.
Lake Eleanor.	Tulolumne.	4,700	1	55.9	-2.3	84	1	30	26†	45	0.28	0.15	0	3	23	1	O. J. Todd.
Le Porte.	Plumas.	5,000	17	51.0	-6.6	75	1†	23	27	46	T.	-2.09	T.	0	18	6	Chas. W. Hendel.
Le Grand.	Merced.	255	11	65.2	-6.6	99	1	40	30	45	0.00	-0.42	0.00	0	26	0	Santa Fe Co.
Lemon Cove.	Tulare.	600	16	72.0	-2.4	101	1	45	22	45	0.03	-0.42	0.03	0	23	0	G. W. Sandidge.
Lick Observatory.	Santa Clara.	4,209	22	56.0	-5.9	77	20	37	25†	24	0.00	-0.34	0.00	0	23	4	The Director.
Livermore.	Alameda.	485	40	63.2	-6.5	87	20	42	19†	43	0.03	-0.43	0.03	0	27	1	E. G. Still.
Lodi.	San Joaquin.	45	29	63.2	-6.5	94	1	39	28	45	0.60	-0.60	0.60	0	27	2	Ezra Fiske.
Lone Pine.	Inyo.	2,728	6	65.6	-2.3	86	1	29	28	45	0.13	-0.13	0.13	0	14	9	G. F. Marsh.
Long Valley.	Lassen.	4,400	2	55.7	-1.7	86	13	52	15	30	1.23	+1.15	1.23	0	24	13	A. G. Evans.
Los Angeles.	Los Angeles.	283	34	68.2	+1.7	91	2	54	27†	40	0.00	-0.13	0.00	0	18	0	U. S. Weather Bureau.
Los Banos**.	Merced.	121	24	70.7	-3.3	89	7	45	10†	40	T.	-0.37	T.	0	20	7	Southern Pacific Co.
Los Gatos.	Santa Clara.	600	24	63.3	-2.3	89	7	45	10†	40	T.	-0.37	T.	0	20	7	F. H. McCullagh.
McCloud.	Siskiyou.	3,410	1	52.4	-7.7	71	1	31	11†	41	0.59	-0.50	0.50	0	24	15	F. F. Spencer.
Macdoel.	do.	4,258	4	49.0	-7.7	79	1†	20	16	52	0.00	-0.00	0.00	0	15	6	Butte Valley L. Co.
Madeline.	Lessen.	5,270	2	49.0	-7.7	80	19	19	18	54	0.25	-0.23	0.23	0	25	4	J. H. Williams.
Magalia.	Butte.	2,321	7	64.0	-7.4	90	1	38	30	46	0.68	-0.68	0.68	0	23	5	Butte Co. R. R. Co.
Mammoth Tank.	Imperial.	257	33	55.4	-4.6	110	1	63	6†	37	0.00	-0.05	0.00	0	22	6	Southern Pacific Co.
Marysville.	Yuba.	67	40	66.6	-7.4	92	8	44	19†	46	T.	-0.29	T.	0	27	0	Do.
Mecca.	Riverside.	185	5	53.3	-7.7	109	24	58	9†	42	T.	-0.29	T.	0	20	5	E. A. Palmer.
Menlo Park**.	San Mateo.	64	33	60.5	-3.6	79	7	48	22†	0.00	-0.28	0.00	0	20	3	Santa Fe Co.	
Merced.	Merced.	173	37	68.2	-5.5	88	8	54	26	27	0.00	-0.18	0.00	0	27	0	Cal. Gas & Elec. Co.
Mill Creek (1).	Amador.	4	58.0	-7.7	85	1	38	26†	39	0.26	-0.26	0.26	0	23	1	J. H. Southwick.	
Milton (near).	Calaveras.	660	20	68.0	-3.5	91	20	50	5†	33	0.10	-0.32	0.10	0	25	3	Do.
Modesto **.	Stanislaus.	90	39	78.1	+3.4	90	3†	65	1†	0.00	-0.19	0.00	0	31	0	Southern Pacific Co.	
Mojave.	Kern.	2,751	34	66.2	-7.7	87	1†	45	5†	34	0.11	-0.43	0.11	0	23	2	C. E. Prindle.
Mokelumne Hill.	Calaveras.	1,550	18	66.2	+0.4	97	1	30	18†	50	0.37	+0.15	0.18	0	11	13	Herbert Lathrop.
Mono Ranch.	Ventura.	3,210	5	60.8	-9.1	93	1	34	27	50	0.49	-0.26	0.26	0	19	0	I. E. Deboy.
Montague.	Siskiyou.	2,450	23	57.2	-11.3	90	1	30	18†	50	0.37	+0.15	0.18	0	24	0	Southern Pacific Co.
Monterey **.	Monterey.	15	46	59.1	-2.4	70	8†	48	29†	34	0.00	-0.15	0.10	0	30	0	John C. Knecht.
Monterio.	Kern.	4,500	12	70.5	+0.5	92	16	44	30	41	1.00	+0.79	1.00	0	22	6	U. S. Weather Bureau.
Mount Tamalpais.	Marin.	2,375	12	59.9	-6.2	82	20	43	23	24	T.	-0.52	T.	0	22	5	Alex. Hull.
Napa City.	Napa.	20	34	59.2	-4.4	88	18	38	30	47	0.00	-0.56	0.00	0	18	0	W. H. Martin.
Napa (S. H.).	do.	60	33	60.2	-3.4	86	17	42	10	40	0.00	-0.57	0.00	0	20	6	Santa Fe Co.
Needles.	San Bernardino.	477	19	61.2	-7.7	89	1	32	7	43	0.76	-0.76	0.76	0	26	0	T. O. Bailey.
Nellie.	San Diego.	5,350	2	61.2	-7.7	87	1†	45	5†	34	0.11	-0.43	0.11	0	26	0	S. W. Marsh.
Newcastle.	Nevada.	2,580	19	59.2	-1.4	93	1	32	27	53	0.22	-0.51	0.12	0	18	7	G. D. Kellogg.
Newhall **.	Placer.	970	18	66.2	-7.7	91	1	34	27	50	0.49	-0.26	0.26	0	19	0	U. S. Forest Service.
Newman.	Los Angeles.	1,200	34	68.5	-3.0	100	1	55	28†	31	0.38	+0.32	0.38	0	27	0	Southern Pacific Co.
Nimshev.	Stanislaus.	91	22	72.0	-2.2	94	1	54	23†	31	0.00	-0.26	0.00	0	26	0	E. S. Wangenheim.
North Bloomfield.	Butte.	2,500	7	59.6	-8.9	83	1	41	27	38	0.60	-0.32	0.60	0	20	7	Cal. Gas. & Elec. Co.
North Fork.	Nevada.	3,200	14	62.2	-1.6	89	1	39	22	41	T.	-0.90	T.	0	17	7	J. R. McIntosh.
Oakdale **.	Madera.	156	17	63.3	-4.4	94	1	39	5	45	0.35	-0.30	0.30	0	22	10	U. S. Forest Service.
Oak Grove.	Stanislaus.	3,000	7	67.0	-4.4	92	20	50	26†	0.00	-0.14	0.00	0	22	0	Southern Pacific Co.	
Oakland.	San Diego.	36	35	61.0	-0.2	79	18	48	20	27	0.01	-0.37	0.01	0	20	5	U. S. Forest Service.
Oceanside.	San Diego.	900	1	65.6	-7.7	78	1	53	6†	24	0.23	-0.14	0.20	0	14	3	Cabot Observatory.
Ojai Valley.	Ventura.	254	29	68.3	-8.4	94	7	43	25	43	0.52	+0.17	0.44	0	22	5	H. D. Brodie.
Orlando.	Glenn.	520	8	68.0	-7.7	100	1	39	18	54	0.68	-0.60	0.60	0	24	0	W. H. Duncan.
Orleans.	Humboldt.	250	27	67.4	-6.4	90	1†	45	28	43	0.11	-0.57	0.07	0	20	5	U. S. Reclamation Serv.
Oroville (near).	Butte.	213	20	65.0	-5.0	93	2	41	12†	44	T.	-0.80	T.	0	20	7	F. T. Hale.
Palermo.	Palm Springs **.	584	22	82.8	-2.4	110	1	70	5†	0.20	+0.15	0.20	0	22	5	E. D. Fairchild.	
Pasadena.	Los Angeles.	827	21	65.6	-4.0	92	16	41	27	46	1.81	+1.66	1.76	0	25	3	Western Pacific Co.
Pas Robles.	San Luis Obispo.	800	24	64.4	-2.5	104	1	32	26	63	0.04	-0.13	0.02	0	26	1	E. D. Sorver.
Peachland.	San Luis Obispo.	190	15	60.3	-2.9	91	15	36	18	33	0.08	-0.07	0.07	0	22	6	Dr. F. W. Sawyer.
Panstock Camp.	Sonoma.	3,750	4	58.6	-4.2	84	1	36	28	40	0.14	-0.48	0.14	0	24	0	E. H. Parnell.
Placerville.	Tuolumne.	1,875	22	58.6	-4.2	84	1	36	28	40	0.14	-0.48	0.14	0	24	0	Tuolumne Water Pr. Co.
Point Lobos.	El Dorado.	250	18	58.2	+0.6	78	18	49	19†	22	T.	-0.57	T.	0	16	9	A. Baring-Gould.
Point Reyes.	San Francisco.	490	19	55.2	-0.9	71	18	47	20	19	T.	-0.92	T.	0	13	10	John Hyslop.
Porterville.	Tulare.	464	22	71.4	-4.9	100	1	41	30	53	0.23	+0.02	0.20	0	21	5	U. S. Weather Bureau.
Quincy.	Plumas.	3,400	16	53.2	-3.8	83	3	25	18	51	0.35	+1.02	2.00	0	24	3	Leslie McAlifull.
Red Bluff.	Tehama.	307	34	67.6	-6.3	91	20	48	26	34	0.65	-0.02	0.61	0	22	6	U. S. Forest Service.
Redding.	Shasta.	552	35	68.6	-5.4	91	1†	49	11†	34	0.54	-0.13	0.34	0	24	4	E. J. Bassett.
Redlands.	San Bernardino.	1,352	18	71.2	-0.9	102	1	47	9	42	0.13	+0.66	0.69	0	20	6	P. W. Moore.
Reedley.	Fresno.	347	11	68.3	-3.8	95	1	35	8	57	0.00	-0.88	0.00	0	27	0	Santa Fe Co.
Rialto (near).	San Bernardino.	2,250	5	70.1	-1.9	98	1	49	6	34	0.66	-1.83	1.83	0	14	11	Se. Calif. Edison Co.
Riverside.	Riverside.	851	29	70.2	-1.9	102	1	43	9†	54	0.75	+0.62	0.59	0	14	14	J. H. Cox.
Rocklin.	Placer.	249	40	70.2	-2.5	99	4	45	11†	43	T.	-0.18	T.	0	25	1	Southern Pacific Co.
Rohnerville.	Humboldt.	75	8	56.9	-7.5	73	15	36	18	33	0.08	-0.07	0.07	0	11	6	Dr. R. Callahan.
Sacramento (1).	Sacramento.	71	34	65.6	-3.5	92	20	48	27	42	0.00	-0.30	0.00	0	25	4	U. S. Weather Bureau.
Sacramento (2).	do.	35	58	63.3°	-3.8	94	18	38	27	51	T.	-0.17	0.00	0	0	0	S. H. Gerrish.
St. Helena.	Napa.	255	3	63.3°	-3.8	78	18†	43	6†	33	0.00	-0.18	0.00	0	27	2	Frank Kettlewell.
Salinas.	Monterey.	40	37	65.0	+3.9	78	18†	43	6†	54	0.47	+1.35	1.14	0	17	11	Miss E. Ruth Abbott.
San Bernardino.	San Bernardino.	1,064	19	69.5	-1.0	103	1	42	9†	54	0.24	+0.09	0.09	0	25	2	Dr. A. K. Johnson.
San Diego.	San Diego.	83	40	66.2	-0.7												

TABLE 1.—*Climatological data for September, 1911. District No. 11—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Number of rainy days 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, melted.								
<i>California—Continued.</i>																						
Sierra Madre.....	Los Angeles.....	1,400	14	69.6	- 0.4	99	1	50	97	86	1.54	+ 1.13	1.54	0	1	26	0	4	9	n.	Mrs. A. C. Gregory.	
Sierraville.....	Sierra.....	5,000	1	51.8	-	88	2	20	18	58	0.00	-	0.00	0	0	19	2	9	n.	C. D. Johnson.		
Sisson.....	Siskiyou.....	3,555	20	53.6	- 4.6	82	2	30	17	42	1.01	+ 0.16	0.55	0	2	23	4	3	n.	Southern Pacific Co.		
Soledad **.....	Monterey.....	188	37	66.5	- 1.6	90	9	50	29	....	0.15	+ 0.07	0.15	0	1	28	0	2	n.	Do.		
Southeast Farallon.....	San Francisco.....	30	8	55.6	-	63	10	48	20	10	0.11	-	0.10	0	2	17	7	6	nw.	U. S. Weather Bureau.		
Sonora.....	Tuolumne.....	1,825	23	64.2	-	94	1	41	27	39	0.07	- 0.66	0.07	0	1	21	8	1	w.	Chas. P. Jones.		
Squirrel Inn.....	San Bernardino.....	5,280	1	61.3	-	87	3	41	28	31	3.44	-	2.59	0	2	25	2	3	s.	A. D. Frantz.		
Stirling City.....	Butte.....	3,525	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	Butte Co. R. R. Co.		
Stockton (S. H.).....	San Joaquin.....	23	40	64.3	- 4.7	88	20	46	28	38	0.29	+ 0.15	0.29	0	1	22	8	0	nw.	State Hospital.		
Storey.....	Madera.....	296	11	64.3	- 7.0	96	1	36	16	53	0.00	- 0.00	0.00	0	0	26	0	4	nw.	Santa Fe Co.		
Suisun **.....	Solano.....	20	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	Southern Pacific Co.		
Summerdale.....	Mariposa.....	5,270	15	57.2	- 2.8	85	1	34	4	43	0.57	- 0.78	0.29	0	3	20	6	4	n.	Mrs. J. E. Lowry.		
Summit.....	Placer.....	7,017	38	47.2	- 6.5	73	1	30	11	32	0.25	+ 0.03	0.25	T.	1	25	1	4	sw.	Southern Pacific Co.		
Susanville.....	Lassen.....	4,175	22	53.9	- 7.7	89	1†	29	18	41	0.32	- 0.42	0.14	0	3	15	15	0	sw.	James Branham.		
Tamarack.....	Alpine.....	8,000	5	45.6	-	70	1	23	26	41	0.32	-	0.24	2.0	3	22	3	5	ne.	William Bennett.		
Tehachapi **.....	Kern.....	3,964	34	63.7	- 2.4	85	1	48	27†	....	0.84	+ 0.75	0.84	0	1	-	-	-	n.	Southern Pacific Co.		
Tehama **.....	Tehama.....	220	40	68.6	- 5.7	93	7	50	26	....	0.30	+ 0.04	0.30	0	1	23	0	7	n.	Do.		
Tejon Rancho.....	Kern.....	1,500	9	64.6	-	83	1†	46	26†	34	0.36	-	0.36	0	2	-	-	-	n.	S. E. Bailey.		
Three Rivers.....	Tulare.....	870	1	67.6	-	96	1	41	26	45	0.14	-	0.14	0	1	21	5	4	sw.	E. D. Barton.		
Towle.....	Placer.....	3,704	25	58.3	- 5.6	85	1	36	27	38	0.10	- 0.93	0.10	0	1	19	5	6	w.	Southern Pacific Co.		
Tracy **.....	San Joaquin.....	64	31	72.2	+ 0.2	94	2	60	24†	....	0.00	- 0.19	0.00	0	0	18	6	6	nw.	Do.		
Ukiah.....	Mendocino.....	620	18	62.9	- 2.8	97	20	34	18	60	0.01	-	0.56	0.01	0	1	20	5	5	nw.	Dr. Geo. McCowen.	
Upland.....	San Bernardino.....	1,750	14	68.6	- 1.1	93	1†	46	18	44	1.48	+ 1.22	0.93	0	2	26	3	1	w.	A. F. Harwood.		
Upper Lake.....	Lake.....	1,350	26	64.0	- 3.1	96	1	38	28	54	0.03	- 0.38	0.03	0	1	24	5	1	nw.	C. M. Hammond.		
Vacaville.....	Solano.....	175	23	65.8	- 5.4	94	20	40	27	48	0.03	- 0.27	0.03	0	1	23	7	0	sw.	G. O. Coburn.		
Valley Springs **.....	Calaveras.....	673	22	69.4	- 2.6	93	1	57	26†	....	0.06	- 0.35	0.06	0	1	20	8	2	nw.	Southern Pacific Co		
Visalia.....	Tulare.....	334	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	Santa Fe Co.		
Warner Springs.....	San Diego.....	3,165	3	66.5	-	95	1	39	5†	44	0.54	-	0.28	0	3	19	11	0	n.	Mrs. F. S. Sandford.		
Wasco.....	Kern.....	336	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	Santa Fe Co.		
Watsonville.....	Santa Cruz.....	23	15	58.7	- 1.6	85	17	35	17	50	0.00	- 0.16	0.00	0	0	9	19	2	sw.	Spreckels Sugar Co.		
Weitchpec.....	Humboldt.....	1,700	1	58.0	-	86	1†	38	22	39	1.07	-	0.45	0	6	22	6	2	sw.	M. E. Lathrop.		
Westley **.....	Stanislaus.....	90	22	71.0	- 2.9	90	1	55	21	....	0.00	- 0.23	0.00	0	0	27	0	3	n.	Southern Pacific Co.		
Wheatland.....	Yuba.....	84	24	66.9	- 3.4	87	7†	43	28	38	0.11	- 0.40	0.07	0	2	22	6	2	s.	Wm. Lombard.		
Willows.....	Glenn.....	136	32	66.2*	- 9.4	88	20	45	11	40	0.12	- 0.09	0.10	0	2	-	-	-	n.	L. C. Stiles.		
Yosemite.....	Mariposa.....	3,945	7	58.2	-	94	1	27	26	60	0.82	-	0.50	0	3	18	0	12	n.	J. P. Kelly.		

\*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

\*\* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 11, California.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 11—Continued.*

Stations.	Watershed.	Day of month.																												Total.						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29						
California—Contd.																																				
Upper Lake.....	Sacramento.....																															.03	0.03			
Upper Mattole.....	Coast.....																															T.	0.28			
Vacaville.....	Sacramento.....																																.03	0.03		
Valley Springs.....	San Joaquin.....																																.06	0.06		
Visalia.....	do.....																																			
Warner Springs.....	Coast.....																																	.20	.06	
Wasco.....	San Joaquin.....																																	.28	.54	
Watsonville.....	Coast.....																																			0.00
Weitchpec.....	Klamath.....																																			1.07
West Branch.....	Sacramento.....																																			0.62
Westley.....	San Joaquin.....																																			0.00
West Point.....	do.....																																			0.17
West Saticoy.....	Coast.....																																			0.14
Wheatland.....	Sacramento.....																																			0.11
Willows.....	do.....																																			0.12
Yosemite.....	San Joaquin.....																																			0.82

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures for September, 1911. District No. 11, California.

Date.	Lakeview, Oreg.		California.																								
			Alturas.		Barstow.		Brawley.		Colusa.		Eureka.		Fresno.		Independ-		Los Ange-		Mount Ta-		Nevada		Porter-		Red Bluff.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1.			87	33			72	39	106	65	83	55	58	53	99	60			81	60	73	58	93	40			
2.			83	36			70	37	103	65	84	54	61	53	88	58			75	61	70	51	83	40			
3.			77	41			70	36	110	72	85	53	62	54	88	55			78	60	70	55	84	43			
4.			72	35			64	36	98	—	77	54	62	52	85	56			76	62	56	46	75	40			
5.			55	37			70	39	97	—	74	51	62	52	80	53			76	61	63	46	77	37			
6.			71	29			75	40			82	50	60	49	85	53			75	58	71	53	84	35			
7.			78	27			81	44			86	52	58	53	89	56			80	54	77	63	88	40			
8.			78	35			82	41	99	—	83	55	62	55	93	58			76	55	71	47	86	40			
9.			73	39			76	35	98	—	78	52	62	49	83	55			77	57	57	45	71	40			
10.			71	31			68	35	101	—	73	50	63	47	81	51			81	56	60	46	75	38			
11.			74	24			68	35	102	—	76	48	65	50	78	56			81	59	66	46	75	35			
12.			70	25			70	37	97	—	77	52	64	52	84	54			82	60	62	48	75	36			
13.			73	27			74	36	89	70	81	48	62	48	86	53			86	61	72	50	81	35			
14.			81	25			74	36	94	75	84	47	63	51	91	55			83	58	77	62	84	38			
15.			77	39			78	35	99	68	83	52	66	54	92	56			80	52	75	61	87	38			
16.			72	28			80	35	102	67	83	51	60	50	91	57			84	54	75	57	88	38			
17.			63	21			82	39	101	61	83	51	59	46	88	55			80	55	77	60	87	35			
18.			76	17			89	38	101	60	84	60	59	44	90	53			80	59	78	62	86	35			
19.			75	23			85	40	102	67	83	48	59	49	92	54			78	54	78	67	85	37			
20.			85	25			84	44	102	64	83	49	63	47	94	56			80	54	82	67	89	40			
21.			80	28			78	42	103	66	75	53	57	48	80	61			84	57	69	46	84	42			
22.			70	29			72	40	100	73	73	49	57	46	84	56			80	62	54	47	76	42			
23.			73	33			70	39	103	63	76	50	58	44	86	56			81	60	63	43	83	42			
24.			77	38			71	38	104	65	76	49	59	47	76	56			79	59	61	44	80	41			
25.			70	40			63	41	101	68	68	46	60	50	74	56			73	58	49	44	84	40			
26.			60	33			57	41	99	72	71	47	64	49	75	48			73	53	61	44	68	40			
27.			57	32			67	38	94	70	79	47	60	47	79	49			79	53	60	45	72	32			
28.			73	24			69	38	92	72	74	44	58	47	64	49			69	60	69	54	83	33			
29.			77	25			75	40	94	73	76	51	59	48	80	56			79	61	74	60	72	34			
30.			71	33			70	39	93	73	75	50	55	50	86	57			73	59	63	44	78	31			
Mns.			73.3	30.4			73.2	38.5	99.4 <sup>b</sup>	68.0 <sup>a</sup>	78.9	50.6	60.6	49.4	84.7	54.9			78.6	57.7	67.8	52.0	80.1	38.2		80.6	54.7

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1.	102	60	80	51	69	59	58	51	71	54	81	51	72	61	71	50	84	53	73	46	80	41	94	41		
2.	90	55	75	54	72	62	61	54	70	52	75	58	78	44	82	41	75	55	68	36	80	41	85	38		
3.	88	51	83	54	70	62	63	53	77	46	71	52	72	55	87	42	80	42	74	54	68	38	84	38		
4.	82	54	75	54	69	62	61	52	70	44	69	50	68	55	77	42	61	43	68	38	69	41	85	35		
5.	81	60	77	50	72	63	65	52	74	48	70	45	72	54	78	41	62	41	76	51	50	32	62	39		
6.	85	49	85	53	72	59	72	54	81	44	79	50	75	50	83	44	68	35	82	51	60	32	68	30		
7.	90	51	89	55	74	55	69	52	86	44	82	52	75	49	86	45	64	45	66	35	68	38	78	34		
8.	89	51	79	58	72	59	61	52	73	48	71	49	70	59	73	42	72	49	82	54	61	40	72	41		
9.	87	47	71	53	70	54	64	53	70	49	70	50	74	50	73	42	61	43	82	51	52	31	78	34		
10.	90	51	71	50	73	58	64	52	72	43	66	44	75	50	86	42	75	38	85	51	62	45	78	31		
11.	92	55	76	49	74	58	67	56	74	46	67	50	80	54	74	46	61	42	76	51	48	30	69	35		
12.	93	56	76	52	73	61	66	56	73	48	73	52	81	51	74	51	61	42	75	52	57	42	66	35		
13.	91	58	81	50	73	61	75	54	80	43	86	50	82	50	84	40	67	38	82	52	65	36	66	34		
14.	92	56	86	54	76	63	79	56	86	46	82	48	75	49	87	40	74	39	86	50	63	36	74	32		
15.	93	55	86	55	72	59	70	54	82	44	71	49	75	50	86	42	75	38	85	51	62	45	78	31		
16.	94	53	85	55	73	61	68	53	78	46	79	48	78	48	83	41	74	36	84	53	62	38	72	33		
17.	92	54	83	56	69	59	73	54	85	42	83	45	76	55	88	43	72	30	83	52	61	37	64	34		
18.	90	50	85	57	72	61	68	52	86	42	74	48	72	59	89	40	74	36	85	51	60	32	65	32		
19.	90	50	88	54	73	57	68	49	82	43	73	49	70	59	83	36	71	3								